CLAIMS

I claim:

1. In a process for the catalytic hydrogenation of a C1-C8 aliphatic nitrile wherein the nitrile is contacted with hydrogen in the presence of a catalytic amount of a palladium/nickel catalyst carried on a support, the improvement which comprises employing a supported palladium/nickel catalytic composition containing a promotingly effective amount of a metal M selected from the group consisting of zinc, cadmium, copper, and silver.

2. The process of Claim 1 wherein the nickel is present in an amount from 10 to 25 percent by weight of the support.

3. The process of Claim 2 wherein the palladium is present in an amount from 0.01 to 20 percent by weight of the support.

4. The process of Claim 3 wherein the palladium/nickel catalytic composition consists essentially of palladium, nickel and the metal M where the amount of the metal M is from about 0.001 to 10 percent of the support.

5. The process of Claim 4 wherein the weight ratio of nickel to palladium is from 1-25:1, the weight ratio of nickel to metal M is from about 10-200:1 and the weight ratio of palladium to metal M is from 0.5-10:1.

6. The process of Claim 4 wherein the catalyst is present in the monolithic form.

7. The process of Claim 1 wherein the nitrile is selected from the group consisting of acetonitrile, propionitrile and butyronitrile.

8. The process of Claim 7 wherein the nickel is present in an amount from 15 to 20 percent by weight of the support

9. The process of Claim 8 wherein the palladium is present in an amount from 0.1 to 1.5 percent by weight of the support.

10. The process of Claim 9 wherein the metal M is present in an amount from about 0.1 to 2 percent of the support.

11. The process of Claim 10 wherein the weight ratio of nickel to palladium is from 1-25:1, the weight ratio of nickel to metal M is from about 10-200:1 and the weight ratio of palladium to metal M is from 0.5-10:1.

ML02333.APP